

Claims

I claim:

- 1        1. A wound irrigation device comprising a reservoir housing, containing a wound irrigation solution, and a discharge means, wherein said discharge means is removably attached to said reservoir housing, such that said discharge means directs a pressurized stream of said wound irrigation solution when said reservoir housing is pressurized.
- 1        2. The wound irrigation device according to claim 1, wherein said discharge means comprises a flat disc.
- 1        3. The wound irrigation device according to claim 2, wherein said flat disc comprises a plurality of ports.
- 1        4. The wound irrigation device according to claim 3, wherein said plurality of ports discharge a plurality of pressurized streams of the wound irrigation solution at an angle, such that said pressurized streams intersect over a center of said discharge means.
- 1        5. The wound irrigation device according to claim 3, wherein said discharge means comprises four ports.
- 1        6. The wound irrigation device according to claim 5, wherein each of said ports has a diameter of about 0.04 inches.
- 1        7. The wound irrigation device according to claim 3, wherein said reservoir housing comprises a threaded neck and an opening.
- 1        8. The wound irrigation devise according to claim 7, wherein said flat disc is positioned over said opening.

1           9. The wound irrigation device according to claim 8, wherein said flat disc is affixed  
2       over said opening with a threaded end cap comprising a connection ring which engages said  
3       flat disc, such that said ports are uncovered.

1           10. The wound irrigation device according to claim 9, wherein said threaded end cap  
2       further comprises a removable protective membrane, wherein said protective membrane  
3       protects said ports and said wound irrigation solution from contamination.

1           11. The wound irrigation device according to claim 10, wherein said protective  
2       membrane comprises a pull tab, such that said protective membrane may be removed by  
3       pulling said pull tab.

1           12. The wound irrigation device according to claim 1, further comprising a splash  
2       guard.

1           13. The wound irrigation device according to claim 12, wherein said splash guard  
2       is hemi-spherical.

1           14. The wound irrigation device according to claim 13, wherein said splash guard  
2       comprises a removable protective cap.

1           15. The wound irrigation device according to claim 1, wherein said discharge means  
2       is an adjustable discharge means, whereby said adjustable discharge means permits  
3       adjustment of the rate of discharge of said irrigation solution.

1           16. The wound irrigation device according to claim 15, wherein said adjustable  
2       discharge means comprises a valve cap and a valve head, wherein said valve cap is

3       removably affixed to said reservoir housing and said valve head is threadably affixed to said  
4       valve cap.

1           17. The wound irrigation device according to claim 16, wherein said valve cap  
2       comprises an inner air inlet and an inner water outlet, wherein said inner water outlet  
3       substantially surrounds said inner air inlet.

1           18. The wound irrigation device according to claim 17, wherein said valve head  
2       comprises an outer air inlet and an outer water outlet, wherein said outer water outlet  
3       substantially surrounds said water air inlet.

1           19. The wound irrigation device according to claim 18, wherein said outer air inlet  
2       comprises a circular port.

1           20. The wound irrigation device according to claim 18, wherein said outer water  
2       outlet comprises a plurality of circular ports.

1           21. The wound irrigation device according to claim 18, wherein said inner air inlet  
2       and said outer air inlet combine to form an air inlet, and said inner water outlet and said outer  
3       water outlet combine to form a water outlet.

1           22. The wound irrigation device according to claim 21, further comprising an air  
2       hose, wherein said air hose comprises a proximal end and a distal end, wherein said proximal  
3       end of said air hose is affixed to said inner air outlet and said distal end of said air hose is  
4       located near a bottom inner surface of said reservoir housing.

1           23. The wound irrigation device according to claim 22, wherein said distal end of  
2       said air hose comprises a ball valve.

1           24. A method for irrigating a wound, said method comprising the following steps:

2           (a)     providing a sterile wound-irrigation solution in a compressible or pressurized

3     reservoir housing having a discharge means comprising at least one port therethrough

4     wherein said port forms a nozzle for directing a pressurized stream of said solution, and

5     wherein the shape and configuration of said port, or ports, results in a dispersed stream of

6     said solution;

7           (b)     directing the discharge means and reservoir housing so as to discharge the

8     wound-irrigation solution toward said wound; and

9           (c)     discharging said wound-irrigation solution from said reservoir housing and

10    through said port, or ports, to produce a dispersed stream of said wound-irrigation solution

11    directed at said wound, wherein said dispersed stream is applied with sufficient force to

12    dislodge contaminants, thereby effectively irrigating said wound.

1           25. The method, according to claim 24, wherein said wound-irrigation solution is

2     discharged from said port, or ports, at a pressure between about 4 PSI and about 20 PSI.

1           26. The method, according to claim 24, wherein said discharge means has a plurality

2     of ports.

1           27. The method, according to claim 24, wherein the diameter of said circular

2     apertures is between that of a 10 gauge hypodermic needle and a 30 gauge hypodermic

3     needle.

1           28. The method, according to claim 24, wherein the diameter of said circular

2     apertures is between that of a 16 gauge hypodermic needle and a 25 gauge hypodermic

3     needle.

1           29. The method, according to claim 24, wherein said ports are circular apertures with

2     a diameter of less than about 1/8 inch.

1           30. The method, according to claim 24, wherein said circular apertures are conical  
2        in shape through said aperture.

1           31. The method, according to claim 24, wherein said discharge means comprises at  
2        least one elongated port.

1           32. The method, according to claim 24, wherein said discharge means is detachably  
2        engaged to said reservoir housing.

1           33. The method, according to claim 24, wherein said discharge means comprises a  
2        protective shield.

1           34. The method, according to claim 31, wherein said protective shield is detachable.